

GP 03-03-06	Closed Cooling Water Systems for Internal Combustion Engines and Reciprocating Compressors	July 2001
-------------	--	-----------

Closed Cooling Water Systems for Internal Combustion Engines and Reciprocating Compressors

GP 03-03-06

Scope

[I] This Global Practice (GP) covers the design and installation of closed cooling water systems for internal combustion engines, integral gas engine compressors, and reciprocating compressors. It does not apply to compressor intercooling and aftercooling facilities.

[I] An asterisk (*) indicates that additional information is required. If a job is contracted, this additional information is furnished in the Job Specification.

Downstream, Chemical, Upstream, Downstream Imperial Oil	For ExxonMobil Use Only	Version 1.0.0
Page 1 of 8	©ExxonMobil Development Company	



Documents

Document Sharing Hub

GP 03-03-06	Closed Cooling Water Systems for Internal Combustion Engines and Reciprocating Compressors	July 2001
-------------	--	-----------

Table of Contents

1. Required References	3
1.1. API–American Petroleum Institute	3
1.2. ASTM–American Society for Testing and Materials	3
1.3. TEMA–Tubular Exchanger Manufacturers Association	3
2. Materials	3
3. Design	4
3.1. Cooling System	4
3.2. Coolers	5
3.3. Cooling Water Reservoir	6
3.4. Circulating Pumps	6
Record of Change	7
Attachment: Purpose Codes Definitions	8

DNST, CHEM, UPST, DIOL	For ExxonMobil Use Only	Version 1.0.0
Page 2 of 8	©ExxonMobil Development Company	



Documents

Document Sharing Hub

1. Required References

[I] This Section lists Practices and Standards that are generically referenced and assumed to be a part of this document. Unless otherwise specified herein, use the latest edition.

1.1. API–American Petroleum Institute

API STD 661	Air-Cooled Heat Exchangers for General Refinery Services
-------------	--

1.2. ASTM–American Society for Testing and Materials

ASTM B 111	Standard Specification for Copper and Copper-Alloy Seamless Condenser Tubes and Ferrule Stock
ASTM B 111M	Standard Specification for Copper and Copper-Alloy Seamless Condenser Tubes and Ferrule Stock (Metric)
ASTM B 169/B 169M	Standard Specification for Aluminum Bronze Sheet, Strip, and Rolled Bar
ASTM B 171/B 171M	Standard Specification for Copper-Alloy Plate and Sheet for Pressure Vessels, Condensers, and Heat Exchangers
ASTM B 584	Standard Specification for Copper Alloy Sand Castings for General Applications

1.3. TEMA–Tubular Exchanger Manufacturers Association

TEMA 1	Standards of the Tubular Exchanger Manufacturers Association
--------	--

2. Materials

- 1) * [R] Materials for shell and tube coolers shall be as follows:
 - a) If fresh water cooling is specified, components shall be of carbon steel.
 - b) If salt or brackish water cooling is specified, components shall be of the materials shown in Table 1.
- 2) [R] Materials for air-cooled heat exchangers shall be as follows:
 - a) Headers shall be of carbon steel.
 - b) Tubes shall be of carbon steel, with aluminum fins.
- 3) [R] Cooling water system piping shall be carbon steel, Schedule 40 minimum wall thickness.
- 4) [R] Materials of system components shall be suitable for the cooling water treatment.

DNST, CHEM, UPST, DIOL	For ExxonMobil Use Only	Version 1.0.0
Page 3 of 8	©ExxonMobil Development Company	



Documents

Document Sharing Hub